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The effect of electrolyte composition on structure and properties of composite electrochemical coatings with copper matrix

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Abstract

A problem of wear resistance and hardness improvement is considered for copper coatings. Copper plating electrolyte is modified with addition of amine complexing agents and TiO 2 dispersed phase. Role of electrolyte composition and dispersed phase nature in structure forming and properties of composite electrochemical coatings Cu-TiO 2 is investigated. Diffraction layer-by-layer investigation of the composite coatings shows uniform distribution of dispersed phase in the deposit bulk and surface. The wear resistance of coatings is increased by 30-35%.